

**THE DELETION OF NEPHROLEPIS PECTINATA FROM THE FLORA OF FLORIDA.** — On November 22, 1959, in company with Mr. John Beckner of St. Petersburg and others, I visited the Big Cypress region east of Naples on a botanical expedition into Collier County, Florida. Leaving Bonita Springs before heading for the royal palm section west of Deep Lake, where some of the rarest Florida pteridophytes were to be seen, we traversed a new road recently cut through the wilderness, in the hope of finding something unusual in a little explored area southeast of Corkscrew Swamp.

Along State Route 858 about 20 miles northeast of Naples we made what appeared to be an interesting discovery, a *Nephrolepis* high in a cypress tree. Since *N. exaltata* (L.) Schott (Wild Boston Fern) is the most common species in Florida, being both epiphytic and terrestrial, this would have been the most logical identification; but this fern somehow looked different, and we speculated that it might just possibly be *N. pectinata* (Willd.) Schott, a species widely distributed in tropical America. I collected and pressed one specimen, while Mr. Beckner obtained a living plant for his fern garden. Unfortunately, his plant died shortly thereafter in an early frost. Since all of his other *Nephrolepis* plants survived that freeze, this seemed further evidence that the plant we collected might actually be *N. pectinata*. However, when I showed my material to Conrad Morton, then Curator of Ferns at the Smithsonian Institution, he said that it was beyond question *N. exaltata*, calling my attention to the round or auricled pinna bases, rather than the acuminate triangles that characterize *N. pectinata*. I wrote Dr. Edgar Wherry following publication of his "Southern Fern Guide" in 1964, in which *N. pectinata* is listed among the ferns of Florida (from Collier County), and informed him of Morton's identification. He replied that he had not actually seen any living or pressed material, but had included *N. pectinata* in his book on the basis of Mr. Beckner's description and report.

In Clifton E. Nauman's article "The Genus *Nephrolepis* in Florida" (Amer. Fern. J. 71:35–40. 1981), he noted that he had "seen no specimens of this species in the herbaria or field. It is doubtful that this species exists in Florida." After reading his article, I wrote Mr. Nauman, enclosing photocopies of my herbarium sheet. He agreed that the fern was indeed *N. exaltata*. In view of this, *N. pectinata* should be deleted from the floristic record for Florida and the United States.—Thomas Darling, Jr., 5008 Larno Drive, Alexandria, VA 22310.

**A FILMY DANAEA.**— One of the rarest species of Costa Rican *Danaeas* is *D. crispa* Endres in Reichenb. f., which was first collected by Endres in the 1870's, probably in the northern Atlantic lowlands of the country. *Danaea crispa* is related to *D. wendlandii* and to *D. jenmanii* (the latter two may not be distinct from each other), but differs from them in having thin, crispate pinnae.

A recent collection provided the following information: the rhizome is creeping, tortuous like that of *D. carillensis* Christ, and bears a fascicle of fronds more or less



spirally arranged around the tip. The fronds are pinnate and have up to 17 pairs of subalternate pinnae. The basal pinnae are much reduced, and the apical pair subtends a usually proliferous bud. The pinnae are translucent, with distant, free, forked veins. In cross section, the lamina is made up of three layers of cells, all photosynthetic. The epidermal cells are thin-walled, elongate, measure 33–61  $\mu\text{m}$  in the upper surface, 53–76  $\mu\text{m}$  in the lower surface, and 25–38  $\mu\text{m}$  deep in each layer. The mesophyll is one-layered; its cells are equal to or smaller than the epidermal cells. From upper to lower cuticle, the laminae are 215–219  $\mu\text{m}$  thick. No palisade tissue is differentiated. Chloroplasts are more or less evenly distributed in the cells, and vary from 4.1 to 10.6  $\mu\text{m}$  in diameter. Around the veins, the lamina is multilayered: one row of epidermal cells, 1 or 2 layers of parenchyma, one layer of sclerenchyma, and amphiphloic vascular tissues are present. At the margins and apices of segments, the two epidermal layers join, with or without small parenchyma cells between them. There are no stomates in my specimen.

With such thin laminae, *D. crispa* is the only known filmy species in the genus, a quality which restricts its distribution to areas of extremely high relative humidity. The fronds dehydrate in less than five hours at 50% r.h. or in three hours at 45% r.h. Rehydration can take place in 2 or 3 hours by total submersion of the leaves, which regain complete turgidity and erectness.—*Luis Diego Gómez P., Museo Nacional de Costa Rica, Apartado 749, San José, Costa Rica.*